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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/680,069

10/05/2000

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07/09/2008

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EXAMINER

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ART UNIT

PAPER NUMBER

2625

NOTIFICATION DATE

DELIVERY MODE

07/09/2008

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DANIEL R. PEARSON, DAVID A. KUMPF,
and GLENN G. CARCIDO

Appeal 2007-4301
Application 09/680,069
Technology Center 2600

Decided: July 7, 2008

Before JOHN A. JEFFERY, ST. JOHN COURTENAY III, and MARC S.
HOFF, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-13. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part and enter a new ground of rejection under 37 C.F.R. § 41.50(b).

STATEMENT OF THE CASE

Appellants invented a method for configuring a scan driver for controlling scan jobs directed to a scan peripheral. The driver may be embodied in a dedicated peripheral server. Based on a stored capability descriptor obtained from the peripheral and scanning parameters, the scan driver is configured by linking various driver modules.¹ Claim 1 is illustrative:

1. A program for interfacing a client computer to one or more scan peripheral devices, the program comprising functions for:

querying a scan peripheral for a capability descriptor;

determining whether an appropriate capability descriptor is obtained in response to said step of querying;

storing a capability descriptor associated with a scan peripheral for which an appropriate information capability descriptor has been received as determined in said step of determining;

configuring a scan driver for a scan job for a scan peripheral when a scan job is requested by a client by a set of pre-stored driving modules, a set of pre-stored driving modules being selected according to user set parameters in the scan job and capabilities indicated in a stored information capability descriptor concerning scan peripheral to which the scan job is directed.

The Examiner relies on the following prior art reference to show unpatentability:

Lo

US 5,911,044

Jun. 8, 1999

¹ See generally Spec. 2:14-3:21.

1. Claim 1 stands rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.²
2. Claims 1-13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Lo.

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Briefs and the Answer³ for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

OPINION

The Rejection Under § 101

We first consider the Examiner's rejection of claim 1 under § 101. The Examiner indicates that claim is directed to functional descriptive material that does not reside on a computer-readable medium. As such, the Examiner contends, the claim merely recites a computer program that does not define any structural or functional interrelationships between the computer and the program to enable the program's functionality to be realized (Ans. 3).

² This rejection was indicated in the Answer as a new ground of rejection (Ans. 3). Although the Brief presents arguments directed to a previous rejection of claim 8 under § 101 (App. Br. 3), the Examiner did not reject claim 8 under § 101 in the most recent Answer. Rather, the § 101 rejection in the most recent Answer is limited solely to claim 1.

³ We refer to (1) the most recent Brief filed October 14, 2005; (2) the most recent Answer mailed August 3, 2007; and (3) the Reply Brief filed February 27, 2006 throughout this opinion.

Appellants argue that claim 1 does not define a data structure, but rather defines process steps. These process steps, Appellants contend, render claim 1 statutory under § 101 since the claim requires one or more acts to be performed on a physical device, namely a scan peripheral (Reply Br. 2).

At the outset, we note that the preamble of claim 1 clearly and unambiguously recites a program. Specifically, the preamble recites “[a] *program* for interfacing a client computer to one or more scan peripheral devices, the *program* comprising functions for....” (emphasis added.)

The issue before us, then, is whether Appellants have shown that the Examiner erred in concluding that the program recited in claim 1 does not recite statutory subject matter under § 101. For the following reasons, we find Appellants have shown no such error.

“Functional descriptive material consists of data structures and *computer programs* which impart functionality when employed as a computer component.” Manual of Patent Examining Procedure § 2106.01, Rev. 6, Sept. 2007 (“MPEP”) (emphasis added). Functional and non-functional descriptive material, however, are both nonstatutory when claimed as descriptive material per se. *Id.*; see also *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

“When functional descriptive material is *recorded on some computer-readable medium*, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.” MPEP § 2106.01 (emphasis added). Compare *In re Lowry*, 32 F.3d 1579, 1583-84 (Fed. Cir. 1994) with *Warmerdam*, 33 F.3d at 1361.

It is this distinction between (1) the functional descriptive material *per se*, and (2) recording such functional descriptive material on a computer-readable medium that is critical to patentability under § 101. As functional descriptive material, this distinction applies both to computer programs and data structures.

As the MPEP explains:

[C]omputer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs, are not physical ‘things.’ They are neither computer components *nor statutory processes, as they are not ‘acts’ being performed.* Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program’s functionality to be realized. In contrast, a claimed *computer-readable medium encoded with a computer program* is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized.

MPEP § 2106.01(I) (emphasis added).

With these principles in mind, we turn to claim 1 on appeal before us. Interpreting claim 1 as a whole,⁴ claim 1 merely recites a program comprising *functions* for (1) querying a scan peripheral; (2) determining whether an appropriate capability descriptor is obtained responsive to the

⁴ See *Diamond v. Diehr*, 450 U.S. 175, 188 (1981) (“In determining the eligibility of respondents’ claimed process for patent protection under § 101, their claims must be considered as a whole.”).

querying; (3) storing a capability descriptor; and (4) configuring a scan driver.

Since claim 1 merely recites a program *per se* with certain recited functions, we agree with the Examiner that the claim, in effect, recites functional descriptive material. Since this functional descriptive material is not recorded on a computer-readable medium, it is therefore non-statutory subject matter under § 101.

While the recited functions may relate to acts to be performed as Appellants argue (Reply Br. 2), they are merely *functions* of the program -- not concrete acts being performed akin to process claim steps. Indeed, the MPEP all but confirms this point. *See* MPEP § 2106.01(I) (“[Computer programs] are neither computer components *nor statutory processes, as they are not ‘acts’ being performed.*”) (emphasis added.) As such, the fact that the claimed program has such intended *functions* does not somehow impart a structural and functional interrelationship between the program and other elements of a machine or computer which permit the program’s functionality to be realized.

Therefore, Appellants’ arguments pertaining to claim 1 reciting acts to be performed on a physical device are unavailing as they are germane to *process claims* -- not claims directed solely to functional descriptive material as is the case here. As noted above, Appellants’ arguments are relevant only with respect to the recited program’s *functionality* -- not any actual concrete steps that would be recited in a process claim. To adopt Appellants’ argument would render the prohibition against claiming programs *per se* (i.e., functional descriptive material) under § 101 meaningless, as virtually

all programs have some sort of functionality when executed. That is the very essence of *functional* descriptive material.

That said, we note that if the word “program” were replaced with “process” in the preamble of claim 1,⁵ we would have an entirely different situation: the claim would easily pass muster under § 101. In this situation, the claim would clearly recite a process with concrete steps to be performed in the body of the claim. But as a “program,” claim 1 on appeal before us merely recites nonstatutory functional descriptive material *per se*, and is therefore unpatentable under § 101.

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner’s rejection of claim 1 under § 101. Therefore, we will sustain the Examiner’s rejection of that claim.

The Anticipation Rejection

We now consider the Examiner’s anticipation rejection of claims 1-13 over the disclosure to Lo (Ans. 4-8). Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. *RCA Corp. v. App. Digital Data Sys., Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984); *W.L. Gore and Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554 (Fed. Cir. 1983).

⁵ Converting claim 1 into a process claim in this manner would also require deleting the term “functions for” in line 2 of the preamble.

Independent Claims 1, 8, and 13

Regarding independent claims 1, 8, and 13, Appellants argue that the Examiner's rejection is improper since the Examiner unreasonably interpreted the recited "pre-stored driving modules" (claim 1); a stored "set of driver modules" (claim 8); or a "set of scan drive modules" (claim 13) as corresponding to the scan *parameters* disclosed in Lo. Appellants emphasize that the intrinsic evidence indicates that the broadest reasonable interpretation of scan *drivers* is clearly different from scan *parameters* in light of the terms' ordinary meaning. To support this contention, Appellants refer to three sources of intrinsic evidence: (1) the Specification; (2) the Lo reference itself; and (3) the claims on appeal (App. Br. 4-7; Reply Br. 4).

First, Appellants argue that the Specification expressly indicates that a driver "functions to control a scan job from a particular peripheral according to the capabilities and protocol for the particular peripheral" (App. Br. 6). Appellants emphasize that the Specification makes clear that an automatically configured scan *driver* may account for user-selected scan *parameters* such that returned parameters allow the driver to configure itself based on these selected parameters and the scan peripheral's capabilities (App. Br. 6-7).

Second, Appellants note that the Lo reference itself distinguishes scan drivers from scan parameters. Specifically, Appellants refer to Lo's descriptions of (1) scanner *parameters* in the form of options (e.g., resolution, brightness, and contrast), and (2) a scan *driver* which is "software which controls the image device," "analogous to a print driver," and is "usually written by the manufacturer of the scanner" (App. Br. 7; Reply Br. 4).

Third, Appellants refer to the language of independent claims 1, 8, and 13 on appeal as evidencing a distinction between scan drivers and scan parameters. Specifically, Appellants note that claim 1 calls for configuring a scan *driver* from “a set of *pre-stored driving modules* selected according to *user set parameters* in the scan job and capabilities...” Appellants also refer to claim 8 which calls for “accepting *parameters* for a scan job...[and] linking *driver* modules,” and claim 13’s recitation of “configuring a scan *driver* from a set of scan drive modules based upon[,]” among other things, “*parameters* included in the scan job” (App. Br. 8; emphasis added).

The Examiner takes the position that the virtual TWAIN⁶ driver 106 and TWAIN driver 136 in Lo are configured by linking a set of pre-stored driving modules (i.e., linking each of the parameters so as to configure the virtual device driver). The Examiner also contends that “a number of different software [sic] are linked in order to perform the scan-to-application operation” in Lo, and that this functionality can be interpreted as linking a set of inherent, pre-stored driving modules to configure the TWAIN driver (Ans. 9-10).

The issue before us, then, is whether Appellants have shown that the Examiner erred in finding that Lo anticipates independent claims 1, 8, and 13. The issue turns on whether the Examiner’s interpretation of the recited linking of a set of pre-stored driving modules (claim 1); linking driver modules from a stored set of driver modules (claim 8); or configuring a scan driver from a set of scan drive modules (claim 13) reasonably corresponds to

⁶ The TWAIN standard defines a standard software protocol and application programming interface (API) for communication between software applications and image acquisition devices (Lo, col. 5, ll. 19-23, 41-46).

the functionality of the virtual TWAIN driver or TWAIN driver in Lo in light of the noted distinctions between scan drivers and scan parameters. For the reasons that follow, we find that it does not.

Lo discloses a network-based image scanning system. As shown in Figures 2 and 3, image information is transmitted from a scanner 144 connected to a server computer 130 to a client computer 102 via network 120. The client computer includes an application program 104 comprising image-acquiring, image processing, and source manager software. The application program software communicates with the scanner server computer utilizing a virtual TWAIN driver 106 that interfaces with the application program (Lo, Abstract; col. 5, ll. 47-65; col. 6, ll. 41-65; Figs. 1-3).

One implementation of this system (i.e., the “scan-to-application” process) is detailed in the flowchart of Figures 8A through 8E. As shown in Figure 8A, the process begins by installing (1) the virtual TWAIN driver on the client computer, and (2) the network scanner software on the scanner server computer (Fig. 8A; Step 450). By virtue of this installed “virtual” driver on the client computer, the user at that computer can perform various functions (e.g., setting the scanner parameters) as if the scanner were directly connected thereto (Lo, col. 13, ll. 34-52).

The user then selects the network scanner as the source of images using the pull-down menu shown in Figure 9 (Lo, Fig. 8A; Step 452). After the user selects the “Select Source” command 534, a subsequent menu (not shown) is displayed allowing the user to select from one or more device drivers. Then, the user requests the scanning operation to begin by selecting the “Acquire” command 536 (Lo, Fig. 8A; Step 454), after which the client

computer determines if there is an available workgroup scanner on the network (Lo, col. 13, l. 61 - col. 14, l. 12; Figs. 8A, 9).

If so, then communications is established between the client and the server (Lo, Fig. 8B; Steps 462-466). Then, upon request from the client computer, the server computer transmits a “read scanner parameters acknowledge command” to the client computer including the scanner parameters as attached data. Upon receipt, the client computer displays the scanner parameters using the virtual TWAIN device driver and allows the user to edit the scanner parameters at the client computer as shown in Figure 10. As shown in that figure, the user can edit parameters such as resolution, brightness, and contrast using sliding graphic control buttons (Lo, col. 15, ll. 34-47; Figs. 8B-8C (Steps 468-472); Fig. 10). If any parameters were changed, they are transmitted as attached data from the client computer to the server computer and stored at the server (Lo, col. 15, ll. 56-65; Fig. 8C (Steps 474-478)).

Based on this functionality, we agree with Appellants that Lo does not reasonably disclose the recited linking of a set of pre-stored driving modules (claim 1); linking driver modules from a stored set of driver modules (claim 8); or configuring a scan driver from a set of scan drive modules (claim 13).

Notwithstanding our agreement with Appellants’ arguments with respect to the critical distinction between scan drivers and scan parameters, we further note that we find the Examiner’s interpretation of Lo’s server computer as allegedly constituting a “scan peripheral”⁷ problematic. Simply

⁷ See, e.g., Ans. at 4 (“Lo discloses a program for interfacing a client computer (client computer 102) to one or more *scan peripheral devices* (scanner server 130)...”) (emphasis added); see also Ans. at 12 (asserting

put, we disagree with the Examiner that the server computer 130 in Lo is a “scan peripheral” in light of the term’s ordinary and customary meaning interpreted in light of the Specification.

According to the Specification, “[a] scan peripheral is a scanner or multi-function device including a scanning function. *Scan peripherals may be accessed through a server* so that multiple users may use the same scan peripheral over a network, for example” (Spec. 1:7-11; emphasis added). This description, in our view, is tantamount to an implicit definition of the term “scan peripheral”⁸ that not only clearly requires a device with scanning functionality, it also distinguishes such peripherals from their associated servers. Thus, while the server 130 in Lo is connected to a scanner 144, the *server itself* is simply not a “scan peripheral” under this definition.

Indeed, the next paragraph in Appellants’ Specification all but confirms this point. According to that paragraph:

A scan peripheral *server* is typically realized in software that is installed in some type of general purpose computer system...Jet Direct[®] [external or internal *server*] devices can control multiple scan *peripherals, including scanners and multi-function peripherals*...A Jet Direct[®] *server* or other server that interfaces to multiple scan *peripherals* typically includes multiple drivers to facilitate

that the *peripheral (scanner server 130)* in Lo stores a scan capability descriptor in its memory).

⁸ See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc) (“[T]he specification is the single best guide to the meaning of a disputed term, and...acts as a dictionary when it expressly defines terms in the claims or when it defines them by implication.”) (internal quotation marks and citations omitted).

control of scan jobs from different scan peripherals.

(Spec. 1:13 - 2:3; emphasis added.)

Furthermore, the claim language of the present application also clearly distinguishes a “scan peripheral” from a scan peripheral server. *See, e.g.*, claim 8 (preamble reciting both “scan peripheral server” and “scan peripheral”); *see also* claim 12 (reciting a peripheral comprising an interface for connecting to a client machine or server).

Based on this clear distinction between scan peripherals and scan peripheral servers, we find the only device in the embodiment of Figures 2 and 3 of Lo that would reasonably correspond to a “scan peripheral” is the scanner 144 -- not the server 130.

In any event, we find the Examiner’s reliance on the functionality of either the virtual TWAIN driver 106 or the TWAIN driver 136 in Lo likewise problematic with respect to the scan driver limitations. Significantly, we fail to see how the TWAIN scan driver in Lo (virtual or otherwise) is configured from a set of stored drive modules based upon the capabilities indicated in the stored capability descriptor and scan parameters, let alone configured by linking a set of such stored modules, as claimed.

Although the virtual TWAIN driver is installed at the client computer, it is merely installed at the beginning of the scanning process for the particular scanner used. Unlike the claimed invention, Lo’s virtual driver is not configured for that job based upon the criteria recited in the claims, namely the stored capabilities and the scan parameters. While the virtual TWAIN driver is associated with other software as the Examiner indicates, the driver itself is simply not configured from drive modules based on the

recited criteria as claimed, let alone linking such drive modules.⁹ Moreover, the fact that the user can edit scan job parameters associated with a given driver (e.g., brightness, contrast, etc.) in Lo hardly means that the driver itself is configured in the manner claimed.

We note, however, that the user at the client computer does, in fact, select a particular driver immediately following selecting the “Select Source” command 534 from the pull-down menu in Figure 9 (i.e., via a subsequent menu that is not illustrated in Lo). *See* Lo, col. 14, ll. 1-4. To the extent that such a selection can be construed as “configuring” a scan driver from a set of “drive modules” (i.e., the various drivers presented for selection), such a configuration is simply not based on capabilities indicated by a capability descriptor and scan job parameters as claimed, let alone linking such modules in the manner claimed.

For the foregoing reasons, Appellants have persuaded us of error in the Examiner’s anticipation rejection of independent claims 1, 8, and 13. Therefore, we will not sustain the Examiner’s rejection of those claims. Likewise, we will also not sustain claims 2-7 or claims 9-11, dependent on claims 1 and 8 respectively, for similar reasons.

⁹ Although the Examiner refers to the Kuroshima reference as evidence that TWAIN drivers can be configured to operate by linking pre-stored modules based on parameters of operation, this reference was not relied upon in the rejection and is therefore not before us. *See In re Hoch*, 428, F.2d 1341, 1342 n.3 (CCPA 1970) (“Where a reference is relied upon to support a rejection, whether or not in a ‘minor capacity,’ there would appear to be no excuse for not positively including the reference in the statement of the rejection.”).

Independent Claim 12

Regarding independent claim 12, Appellants argue that Lo does not disclose that the scan device 50 or 144 stores a capability descriptor or responds to queries regarding the same. Appellants emphasize that it is the server computer 130 -- not the scan device 144 -- that stores information (App. Br. 10-11). The Examiner takes the position that the peripheral corresponds to the server 130 and therefore stores in its memory a scan capability descriptor that is communicated responsive to queries requesting the same (Ans. 11-12).

The issue before us, then, is whether Appellants have shown that the Examiner erred in finding that Lo's server 130 can be reasonably construed as a peripheral including a scanning capability, where the peripheral stores a scan capability descriptor and a controller that sends such a capability descriptor to the client machine or server, as claimed.

We will not sustain the Examiner's rejection of claim 12 essentially for the reasons noted above in connection with the other independent claims. Our discussion regarding our disagreement with the Examiner that the server computer 130 in Lo is a "scan peripheral," interpreting the term's ordinary and customary meaning in light of the Specification, applies equally here and we incorporate that discussion here by reference.

While it may be that the scanner 144 in Lo has some sort of "capability descriptor" stored in memory that could be communicated to a computer connected to the scanner (e.g., via a standard USB connection), the reference is simply silent regarding this possibility, and we decline to resort to speculation regarding such a feature. In any event, such possibilities are

not enough for anticipation, as the recited feature must be necessarily present in the reference, a requirement that is simply not met by Lo.

For the foregoing reasons, Appellants have persuaded us of error in the Examiner's anticipation rejection of independent claim 12. Therefore, we will not sustain the Examiner's rejection of that claim.

New Grounds of Rejection Under 37 C.F.R. § 41.50(b)

Under 37 C.F.R. § 41.50(b), we enter the following new grounds of rejection:

Claims 2-4 and 7 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

For the reasons noted *supra* in connection with independent claim 1, claims 2-4 and 7 likewise do not recite statutory subject matter. Our previous discussion regarding claim 1 applies equally here and we therefore incorporate that discussion by reference.

However, since claims 5 and 6 positively recite that the program is *stored* in a server or computer respectively, these claims at least nominally recite statutory subject matter (i.e., a program stored on a computer-readable medium) for the reasons indicated previously.

DECISION

We have sustained the Examiner's rejection of claim 1 under § 101, but have not sustained the Examiner's anticipation rejection of claims 1-13. Therefore, the Examiner's decision rejecting claims 1-13 is affirmed-in-part. We have also entered a new ground of rejection under 37 C.F.R. § 41.50(b) for claims 2-4 and 7.

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). This Section provides that “[a] new ground of rejection ... shall not be considered final for judicial review.”

Section 41.50(b) also provides that the Appellants, **WITHIN TWO MONTHS FROM THE DATE OF THE DECISION**, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

- (1) Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner....
- (2) Request that the proceeding be reheard under § 41.52 by the Board upon the same record....

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Appeal 2007-4301
Application 09/680,069

AFFIRMED-IN-PART
37 C.F.R. § 41.50(b)

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